
Acute myocardial infarction diagnosis and treatment following implementation of a multicomponent intervention in Tanzania: the MIMIC pilot trial

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Why We Did This Study

Heart attacks are the leading cause of death worldwide. In Tanzania, doctors often missed heart attacks because they did not run the right tests. Less than one in four people with a heart attack got the right medicines. A research team created a program called MIMIC to help. MIMIC is a set of five tools to help emergency room doctors find and treat heart attacks better. These tools include online training for doctors and nurses. They also include special cards to remind staff to check for heart attacks. A pocket guide helps staff remember steps. A lead doctor and nurse watch over care. This study tested whether MIMIC improved testing, diagnosis, and treatment in one emergency room in northern Tanzania.

Who Participated in This Study?

The study took place at Kilimanjaro Christian Medical Centre in Tanzania. Adults who came to the emergency room with chest pain or trouble breathing were invited to join. A total of 852 people signed up for the study: 275 before the MIMIC program started, and 577 after. Most were about 62 years old. About half were women. Many had high blood pressure or diabetes. People with a fever or chest pain from an injury were not included.

What Were the Results?

After the MIMIC program started, more people got the tests needed to find a heart attack. Before MIMIC, about 55 out of 100 people got a heart tracing test, called an ECG. About 41 out of 100 got a blood test to check for heart damage, called a troponin test. After MIMIC, those numbers rose to 89 out of 100 for ECGs and 78 out of 100 for blood tests. Heart attacks were found more often, about 24 out of 100 after MIMIC, compared to about 15 out

of 100 before. Among people with heart attacks, more got the right medicines. Before MIMIC, about 34 out of 100 got aspirin (a medicine used to stop blood clots). After MIMIC, about 72 out of 100 did. Survival at 30 days did not meaningfully change.

What Do These Results Mean?

This study showed that a well-designed program can greatly improve how doctors find and treat heart attacks in Tanzania. But about 30 out of 100 heart attack patients still did not get aspirin after the program started, so there is room to improve. The study did not find a change in how many patients survived at 30 days. The researchers think the study was too small to detect a change in survival. One limitation is that this was done at only one hospital, so the results may not apply everywhere in Tanzania. Larger studies at many hospitals are needed to know if MIMIC saves lives.
